APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,651	02/06/2002	Joo-Seon Kim	Q64314	4497

7590	05/23/2006	EXAMINER

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EXAMINER
TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/066,651	KIM, JOO-SEON
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-17,19-22,28-31,33 and 36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17* is/are allowed.

6)☒ Claim(s) *1,4-16,19-22,28-31,33 and 36* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1.   In view of the amendment filed 03/20/2006, the Examiner withdraws previous rejections to the Oath or Declaration filed 02/06/2002.

Response to Arguments

2.   Applicant's arguments filed 03/20/2006 have been fully considered but they are not persuasive.

The Applicant contends, "Massoudi does not teach or suggest any RS cores which are alternately enabled by a control part to correct the error and update the data". To be precise claim 1 recites, "wherein the control part alternately enables the first RS core and the second RS core to correct the error and update the data". The Examiner would like to point out that once an error is corrected it does not need to be corrected again and that one of ordinary skill in the art at the time the invention was made interpret the Applicant language to mean --wherein the control part alternately enables the first RS core and the second RS core to correct errors and update the data--, which is precisely what the Applicant means. Likewise the Examiner is assuming that the Applicant is arguing --Massoudi does not teach or suggest any RS cores which are alternately enabled by a control part to correct errors and update the data--.

The Examiner disagrees with the Applicant's contention and asserts that claim 1 of Massoudi teaches that DVD data is stored in ECC blocks such and one of ordinary skill in the art at the time the invention was made would have known that it takes many ECC blocks of data to store user data. One of ordinary skill in the art at the time the invention was made would have known that the algorithm taught in Massoudi is for the correction of a single ECC block and that the algorithm as recited in claim 1 of Massoudi must be repeated for each ECC block of the DVD data being read one ECC block at time; correcting the errors in each ECC block and updating the data in the ECC block one ECC block at time. Claim 1 in Massoudi recites the steps which must be performed to correct a single ECC block: "each ECC data block comprising a plurality of columns and rows, the ECC data blocks being read from a storage medium sequentially in rows, the device comprising: on-the-fly row correcting circuitry configured to sequentially receive the rows of an ECC data block for detecting errors in each of the received rows and for correcting up to a first predetermined number of the errors in each of the received rows; column correction circuitry coupled to the row correction circuitry to sequentially receive the row error corrected rows of the ECC data block for detected uncorrected errors, wherein the column correction circuitry is configured to correct uncorrected errors remaining in the columns of the ECC data block after the up to a first predetermined number of errors in each row have been corrected", which is repeated for each ECC block read form disk in the order recited in claim 1, hence Massoudi explicitly teaches the control part alternately enables the first on-the-fly row correcting circuitry RS core and the second row correction circuitry RS core to correct errors and update DVD data.

The Applicant contends, "With further regard to claims 5, 8, 20, 22, 28 and 29, the Examiner alleges that the respectively claimed elements are "obvious mathematically derivations of syndrome equations for a particular embodiment of the teaching in the Massoudi and Fujita patents." However, claims 5, 8, 20, 22, 28 and 29 respectively recite particularly claimed embodiments which are neither disclosed nor suggested by either Massoudi or Fujita alone or in combination".

The Examiner disagrees and asserts that syndromes are defined by the equation $s = r\,H$ where H is the parity matrix and r is the received codeword. The equation can be manipulated through a multitude of well-known mathematical operations so that the syndromes are presented in a different form. However regardless of the form the syndromes do not change, that is the syndrome defined by any other form of the syndrome equation has to be identical to the syndromes defined by the equation $s = r\,H$ has to be identical. Hence regardless of the equation that is used in claims 5, 8, 20, 22, 28 and 29; the syndromes derived form the equations in claims 5, 8, 20, 22, 28 and 29 are identical to the syndromes derived from the equation $s = r\,H$.

The Applicant contends, "However, the Examiner's contentions do not rely on any motivation other than improper hindsight, as claims 6, 9, 12 and 14 respectively recite particularly claimed embodiments and are neither disclosed nor suggested by either Massoudi or Fujita alone or in combination".

Massoudi teaches a Reed-Solomon Decoder. Claims 6, 9, 12 and 14 recite language claiming a Linear Feedback Shift Register typically used in a Reed-Solomon Decoder. The Examiner refers the Applicant to Figure 5-14 on page 121 of Wicker for an example of an LFSR (Stephen B. Wicker, Error Control Systems for Digital Communication and Storage, Prentice-hall 1995).

The Examiner disagrees with the applicant and maintains all rejections of claims 1, 4-16, 19-22, 28-31, 33 and 36. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 1, 4-16, 19-22, 28-31, 33 and 36 are not patentably distinct or non-obvious over the prior art of record in view of the reference, Massoudi; Firooz (US 6363511 B1) in view of Fujita; Hachiro et al. (US 6131178 A, hereafter referred to as Fujita) as applied in the last office action, filed 12/19/2005. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by

Massoudi; Firooz (US 6363511 B1).

See the Non-Final Action filed 12/19/2005 for detailed action of prior rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

4.   Claims 4-9, 11-16, 19-22, 28-31, 33 and 36 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Massoudi; Firooz (US 6363511 B1) in view of Fujita;

Hachiro et al. (US 6131178 A, hereafter referred to as Fujita).

See the Non-Final Action filed 12/19/2005 for detailed action of prior rejections.

Allowable Subject Matter

5.   Claim 17 is allowed.

Claim 2 is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.
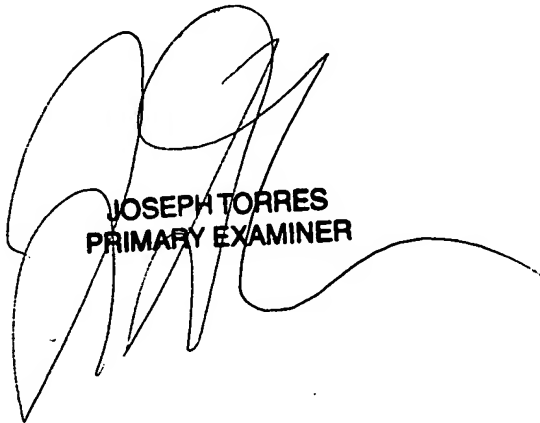

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is (571)

272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133